



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/550,756

07/24/2006

Klaus Gottschall

WRSF 7

3684

25666

7590

03/10/2010

THE FIRM OF HUESCHEN AND SAGE  
SEVENTH FLOOR, KALAMAZOO BUILDING  
107 WEST MICHIGAN AVENUE  
KALAMAZOO, MI 49007

EXAMINER

BASS, DIRK R

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

03/10/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,756	<b>Applicant(s)</b> GOTTSCHALL, KLAUS	
	<b>Examiner</b> DIRK BASS	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 38-40 and 43-59 is/are pending in the application.
- 4a) Of the above claim(s) 54-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 38-40, 43-53, 59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

Applicant's response filed December 3, 2009 is acknowledged. Claims 38, 43-44, 46, 47, and 49-52 are amended, claims 41-42 are cancelled, and claim 59 is newly added. Claims 38-40, 43-53, and 59 are pending and further considered on the merits.

#### ***Response to Amendment***

In response to applicant's amendments, the examiner maintains and further clarifies the grounds of rejection set forth in the office action dated June 1, 2009.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 38-40, 43-53, and 59** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hutchens et al., WO 98/59360 (Hutchens).

3. Regarding claims 38 and 43-44, Hutchens discloses a method of retentate chromatography for resolving analytes in a sample (abstract) comprising:

- a. Determining at least two groups of a substrate which are capable of binding to a sorbent (implicitly disclosed on pg. 44, l. 12-32);
- b. Respectively applying at least two different groups capable of binding to the substrate to one respective carrier, thereby forming at least one sorbent, whereby the groups are complementary to the groups of step (a) (see 'mixed functionality adsorbents', pg. 44, l. 12-32);
- c. Contacting the substrate with the sorbent (pg. 26, l. 28-30);
- d. Testing the binding strength of the substrate to the sorbent (implicitly disclosed on pg. 26, l. 27-30); whereby
  - i. The groups of step (a) are determined such that a binding strengthening occurs that results in an improved separation selectivity with respect to the at least one substance to be separated (pg. 44, l. 12-32);

Art Unit: 1797

- ii. The at least two different groups capable of binding in step (b) are inserted into a polymer via at least two identical or different functional groups of the polymer, whereby a polymer is formed which is derivatized with said groups (pg. 30, l. 19-30); and
  - iii. Said derivatized polymer is bound to the carrier by means of non-covalent interactions (pg. 29, l. 3-9).
4. Regarding claims 39-40, it is inherent in Hutchens that the substrates (see “analytes”) contain at least two components, each component having at least two binding groups (pg. 44, l. 12-32).
5. Regarding claim 45, Hutchens discloses a method characterized in that the at least two different groups capable of binding of the at least one sorbent are selected among groups which are part of amino acids, sugars, nucleotides, nucleosides, pyrimidine bases, and purine bases (pg. 7, l. 9-12 and pg. 21, l. 13-33).
6. Regarding claim 46, Hutchens discloses a method characterized in that the at least two different groups capable of binding of the at least one substrate are selected among groups which are part of amino acids, sugars, nucleotides, nucleosides, pyrimidine bases, and purine bases (pg. 7, l. 13-25).
7. Regarding claims 47-48, Hutchens discloses a method characterized in that the at least two different groups in step (b) are covalently bonded to a polymer by means of polymerization (pg. 30, l. 19-30).
8. Regarding claims 49-50, Hutchens discloses a method characterized in that in step (b) the at least two different groups capable of binding a second substrate are applied onto a carrier via activating reagents, and the groups consist of amine and carboxyl (see “affinity reagent”, pg. 30, l. 19-30).
9. Regarding claims 51-53, Hutchens discloses a method additionally comprising the steps of isolating the second substrate, and characterizing and identifying the at least one second substrate (pg. 3, l. 28 - pg. 4, l. 4), wherein said second substrate comprises amino acids (pg. 19, l. 1-3, and pg. 21, l. 13 - pg. 22, l. 11).

10. Regarding claim 59, Hutchens discloses a method wherein prior to said derivatization said polymer is applied to said carrier in non-derivatized form (see 'precursor molecule', pg. 30, l. 19-30).

### ***Response to Arguments***

11. Applicant's arguments filed December 3, 2009 have been fully considered but they are not persuasive.

12. In light of the amendments, the examiner respectfully directs applicant's attention to the passages relied upon in the rejection of claim 38 and all other dependent claims. The examiner responds to such arguments by relying on the 35 U.S.C. 102(b) rejections set forth above.

13. With respect to the bivalent binding of a substrate to a sorbent, the examiner directs applicant's attention to page 44, lines 12-32, in which Hutchens discloses utilizing 'mixed functionality adsorbents'. Said mixed functionality adsorbents comprise multiple bases of attraction for analytes, implicitly disclosing that said analytes of interest will contain the complementary bases of attraction in order to separate the analytes of interest. For example, Hutchens discloses an analyte which can bind to hydrophobic adsorbents, but can be further bound by negatively charged ionic interactions, thus strengthening the binding event that occurs with the analyte and the adsorbent. The examiner considers these passages to be anticipatory of applicant's currently claimed subject matter.

### ***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1797

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIRK BASS whose telephone number is (571) 270-7370. The examiner can normally be reached on Mon - Fri (9am-4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Krishnan S Menon/  
Primary Examiner, Art Unit 1797

/DRB/  
Dirk R. Bass